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(54) Title: SEARCH ENGINE FOR VIDEO AND GRAPHICS

(57) Abstract

A method of selecting graphic or video files having corresponding locators used to locate such graphic or video files using a computer. Identifiers are created and saved to memory (20) by searching an area within a web page near a graphic or video file for searchable identification terms and searching an area within a web page near links to a graphic or video for searchable identification terms. User requests for graphic or video file content are received and the database of identifiers search is initiated (22) to find graphic and video files corresponding to criteria of the user. Graphic or video file content is then provided to the user.

1   **SEARCH ENGINE FOR VIDEO AND GRAPHICS**

REFERENCE TO RELATED APPLICATION

This application claims priority in United States Provisional Application No. 60/110,299,
5   the contents of which are incorporated herein by reference.

FIELD OF THE INVENTION

This invention relates generally to Internet search engines, and more particularly to a
search engine for retrieval of video and graphics over the Internet.
10

BACKGROUND OF THE INVENTION

Over the past few years, the amount of content available over the Internet has grown
tremendously. Much of the Internet's content is distributed widely across many locations.
Therefore, a search engine and/or navigator is required for meaningful retrieval of information.
15   There are numerous search engines and navigators available to search for specific content on the
Internet.

Current search engines and navigators are designed to search for text within the text
contained in web pages or other files on the Internet or a written description of the web page to
be located. A search engine stores the location of a given piece of information and various
20   descriptions of the information in a database that is searchable by a user. Often, the information
to be located is itself descriptive.

A search engine may rely upon the content providers to establish both the location of the
content and descriptive search terms to enable users of the search engine to find the content.
Alternatively, the process of search engine registration is automated. A content provider places
25   a "meta-tag" into their web page or other content. The "meta-tag" contains keywords that a
search engine can index the page location upon to enable searching. The "meta-tag" is not
displayed by a page reader's web browser software.

A search engine may use a web crawler to search for content on the Internet. The web
crawler automatically "spiders" through web pages by following every link from one web page
30   to other web pages until all of the links are exhausted. As the web crawler spiders through pages,
the web crawler correlates the descriptive tags on each page viewed with the location of the page
to construct a searchable database.

Recently, advances in Internet access have enabled more users to create video and graphic
content and to distribute that content over the Internet. Furthermore, video streams are becoming
35   more and more common as a form of content on the Internet. As with text and file content, the
increasingly large amount of video and graphic content is distributed widely across many
locations, thus creating the need for a search engine and/or navigator for meaningful retrieval of
information.

1   The need to be able to search for video or graphics will only continue to grow as streaming video becomes more available and popular over the Internet or similar information transferral systems, such as on-line services, Intranets, etc. Furthermore, as personal computers and other office or home equipment develop larger and larger memory and storage capacity, the storage of

5   video streams will become even more common and the need for a video search engine ("VSE") will increase.

         Video and graphic content does not lend itself to easy searching because video and graphics often do not contain any text description that can be searched with a currently available navigator or search engine. Furthermore, there is no uniform format for identifying and

10   describing a video or a graphic. Therefore, currently available search engines and browsers are inefficient and unusable for meaningful retrieval of video and graphic information over the Internet. There is currently no easy or direct way to search for a video or to search, display, select, or take action on, video streams. As the usage of video streams becomes even more common, there is a need for a centralized navigator and search engine for video streams.

15   One object of the present invention is to provide a search engine for graphics and video.

SUMMARY OF THE INVENTION

         The present invention provides a method of searching for graphic or video files having corresponding locators used to locate such graphic or video files using a computer. The method

20   comprises creating an identifier of searchable file information from identifier information related to a graphic or video file and   storing the identifier and the locator for the graphic or video file in a database. The method further comprises receiving search criteria; searching the identifiers in the database in order to select content matching the request of the user. The results of the search are sent or displayed for the user. In another embodiment of the present invention,

25   video and graphic content is provided to a user based on user submitted criteria.

         In a preferred embodiment of the present invention, identifiers are created by searching an area within a web page near a graphic or video file for searchable identification terms and by searching an area within web pages near links to a graphic or video file.

         The present invention provides a system for searching for graphic or video files having

30   corresponding locators used to locate such graphic or video files. The system comprises a means for creating an identifier containing searchable file information from identifier information related to a graphic or video file. The system further comprises a database for saving an identifier, as well as an input for receiving search criterion from a user. The system uses a search engine to search the identifiers in the database. The system sends or displays the results of the

35   search for the user.

         These and other aspects of the present invention are more readily understood when considered in conjunction with the accompanying drawings and the following detailed description.

1   DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a system utilizing a video search engine in accordance with one embodiment of the present invention.

FIG. 2 is a flow diagram of a process of content development, identifier creation, and
5   search.

FIG. 3 illustrates a video frame with embedded identifier information in accordance with the present invention.

FIG. 4 is a flow diagram of a search process of the present invention.

10   DETAILED DESCRIPTION

An overview of a video search engine ("VSE") in accordance with the present invention is illustrated in FIG. 1. The system of FIG. 1 comprises a content provider 10, a search engine 12, and a content viewer 14. The content provider, the search engine, and the content viewer, are coupled to each other via a remote communication interface 15. In the embodiment described,
15   the remote communication interface comprises the Internet, although in alternative embodiments the remote communication interface comprises an Intranet, or other computer to computer interface. In the embodiment described, the content site, the search site, and the viewer site all comprise computers. In alternative embodiments, the content site, the search site, and/or the viewer site comprise set-top boxes. In another embodiment, one site may contain more than one
20   of the viewer site, content site, and search site, such as one site containing both the viewer site and the search engine.

An overview of a process in accordance with one embodiment of the present invention is shown in FIG. 2. The graphic or video content is created 16. Identifier information is inserted into the graphic or video file, or the area surrounding a graphic or video file link 18. The process
25   receives searchable identifier information including the location of the file and creates an identifier entry in a storage device 20. The process receives a request for video or graphic content from a user 22. The process conducts a search for video or graphic content and displays the results to the user 24. The process provides numerous services on the selected video and graphic files to the user 26.

30   Graphic or video content is created using specialized software and hardware, as well as other equipment such as a camera. For example, a graphic may be created by scanning a picture with a scanner, or by creating a freehand drawing in a drawing program. A video may be created for example by using a digital video camera, or by digitizing analog video using a video capture board in a computer. As used herein the term video includes animation.

35   In an embodiment of the present invention, the process for searching and manipulating video and graphic content over the Internet comprises a system of identifiers. An identifier is created for each graphic or video file from pieces of information herein called identifier information. As shown in the examples below, an identifier for a video file comprises one or

1   more of the following: a text string or other searchable attribute of a whole, segment, frame, or
sub element of a video. The identifiers are used to consistently identify a whole, segment, frame,
or sub element of a video. An identifier for a graphic file comprises a text string or other
searchable attribute of the graphic file.

5   Examples of identifiers are shown below. Example 1 is a whole video. Example 2 is a
video segment identifier. Example 3 is a video frame identifier.

Example 1

A **whole video** identifier comprises one or more of the following:

10   •   Format of video stream

        •   Size of video stream

        •   Play time of video stream (including number of frames)

        •   Whether or not sound is contained

        •   Date of creation

15   •   Category of video stream

        •   Whether it requires conditional access or payment

        •   Text description of the video stream (This may also be broken down into additional fields
                including: content, author, director, year made, category, actor/actresses, owner, star
                rating, and parental control code.)

20   •   Representative frame of the video stream

        •   Representative audio stream

        •   Number of identified segments in the video stream

        •   Number of identified frames in the video stream

        •   A unique ID

25   •   Linking and other association information

Example 2

A **video segment** identifier comprises one or more of the following:

        •   Unique ID of the video stream to which it is a segment

30   •   Segment sequence information (from frame x to frame y) which allows unique
                identification of the frame when used with the unique ID of the video stream

        •   Category of video segment

        •   Whether it requires conditional access or payment

        •   Text description of the video segment (This may also be broken down into additional

35   fields including: content, author or director, year made, category, actor/actresses, owner,
                star rating, and parental control code.)

        •   Representative frame of the video segment

        •   Representative audio stream

1   •   Number of identified segments in the video segment
     •   Number of identified frames in the video segment
     •   Linking and other association information

5   Example 3
     A **video frame** identifier comprises one or more of the following:
     •   Unique ID of the video stream in which it is a frame
     •   Frame sequence information which allows unique identification of the frame when used
          with the unique ID of the video stream
10   •   Category of video frame
     •   Whether it requires conditional access or payment
     •   Text description of the video frame (This may also be broken down into additional fields
          including: content, author or director, year made, category, actor/actresses, owner, star
          rating, parental control code.)
15   •   Linking and other association information

          In a preferred embodiment, the textual elements of the identifier are standardized to
     facilitate creation, searching and archiving. In additional embodiments, one or more of the
     textual elements of the identifier is in coded, compressed or encrypted form. Additionally, the
20   textual elements in coded form utilize static and/or dynamic dictionaries.
          In an embodiment of the present invention, the process for integrating identifier
     information into a video or graphic file is a part of the creation of the graphic or video file. The
     process is resident in the software or hardware used to create the content, and integrates identifier
     information into the graphic or video automatically as the video or graphic is saved to a storage
25   device, such as a hard disk, optical disk, floppy disk or similar device.
          In an alternative embodiment of the present invention, a process for integrating identifier
     information into a video or graphic file is performed after the creation of the graphic or video.
     Already created graphic or video files are submitted to a process server along with desired
     identifier information and the files are modified with identifier information. The modified file
30   is saved to a storage device, such as a hard disk, optical disk, floppy disk or similar device.
          The process provides a means of attaching identifier information to a video in a manner
     that does not interfere with the viewing clarity of the video. In an embodiment of the present
     invention, the process integrates textual identifier information into the filename of the video
     stream or graphic file. In an alternative embodiment of the present invention, the identifier
35   information is located in a part of the file that is not displayed by viewer software, such as at the
     beginning or the end of the file.
          In a preferred embodiment of the present invention, as shown in FIG. 3, the textual
     identifier information 28 is embedded in each frame of a video, so that the video is identifiable

to the accuracy of a frame. In a more preferred embodiment of the present invention the textual identifier information 28 is placed on the outside periphery of each frame of the video 30. In a particularly preferred embodiment of the present invention, the placing of the identifier information is hidden by displaying the video stream within a graphically created frame 32 that overlaps the periphery of the video so as to obscure the identifier information placed in the periphery of the video. In another embodiment of the present invention a graphic file has textual identifier information placed on its periphery as done with a video stream above.

In another embodiment of the present invention, the video content comprises a stream of packets containing the elements of the video. Each packet contains informational headers indicating the content contained in the packet. Identifier information is placed into informational packets that are located within a video stream. These informational packets contain headers identifying them as non-video packets. The information packets are not displayed by the video viewer, but are used by the identifier creation process to acquire identifier information for each whole, segment, or frame of the video.

In an embodiment of the present invention, the content comprises graphic or video files wherein the identifier information is not located inside of the file itself. To acquire identifier information, the process searches the content surrounding the graphic or video on the content provider's computer. The process also searches the content of a web page surrounding links to the graphic or video, or receives identifier information directly from the content provider. Alternatively, the identifier information is placed in a file accompanying the graphic or video file.

In an embodiment of the present invention, the process generates identifiers to be searched by automatically locating video streams or graphics on the web, reading any associated text surrounding any links to the video stream or graphic, and using the text to create an identifier or identifiers for a video or graphic file. The process also searches through web sites that contain video streams or graphics, and using pointers in such web sites that open or click to the video stream or graphic or web page containing the video stream or graphic, and "reverse locates" any text description of the video stream. Additionally, a database of links contained in a large number of other web sites from throughout the world wide web, such as a typical database created by a web spider or web crawler, is searched for other web pages with links to the video or graphics file. After generating an identifier, the process stores the identifier in a database. In a preferred embodiment of the present invention, the database is stored in a storage device, such as a hard disk, optical disk, floppy disk or similar device.

For example, when a link is used to open a video stream, the process automatically searches to find all of the web pages where the link is contained, whether from the same web site as the video or graphic file or other web site. Once a link to the graphic or video is found, the process searches in the "neighborhood" around the link to acquire relevant text information. The text in the "neighborhood" or area around the link is likely to contain descriptive and informational terms of interest. The closer to the link, the more likely the text is to contain

relevant information. Text within the same paragraph, column, or general page area as the link, is likely to contain some information that can be placed into a searchable identifier. When more than one web page is found that contains links to the video or graphic, a comparison is performed on the "neighborhood" text from the various web pages and terms or phrases that appear on more than one web page. Such terms in common are given more weight in the identifier for the video stream. Further, the more of these web pages that include the same terms, the more weight is given to these terms in the identifier.

In a preferred embodiment of the present invention, text parsing techniques are used to identify relevant lines of text to incorporate into the textual description and other textual fields such as a date of creation, size, or category of the video in the identifier. Alternatively, keywords are used to locate and incorporate relevant information into the textual description and other textual fields in the identifier.

In an additional embodiment of the present invention, the process solicits a user to submit information regarding a graphic or video file and then generates one or more tags to be inserted into the area surrounding the link to the graphic or video file. Currently, meta-tags exist for describing a page of content, but additional specialized tags may be created to contain identifier information for other specific types of content. Once the tags are inserted into the area surrounding the link, the automatic identifier creation process creates a searchable link to the video or graphic.

In an additional embodiment of the present invention, the process solicits a user to submit information regarding a graphic or video file. Using the user provided information along with the location of the file, the process generates an identifier, and saves the identifier in a database. Alternatively, the process solicits a user to submit information regarding a graphic or video file and then generates a file to accompany the graphic or video file that contains identifier information about the graphic or video file.

An embodiment of the present invention allows a user to search through identifiers to locate one or more graphics or videos. The process locates and retrieves video and graphic files by searching through the identifiers in a database for desired attributes and uses the location information in the identifier to acquire the file.

In a preferred embodiment of the present invention, as shown in FIG. 4, in response to a user request 34, the process generates a search screen 36 containing several fields, each for a different searchable attribute, prompting the user to specify the content of each attribute that they would like to search by. The process receives the user's search criteria 38 and then conducts a search of the various file identifiers in a storage device 40. The process generates a results page 42 listing matches to the user's search criteria. The results page comprises hotlinks to the graphic or video files, as well as descriptions and other attributes of the files.

In another embodiment of the present invention, the results page provides a link to a detailed information page 44. The process caches a portion of a video, or an attribute of the

video, such as an audio segment, or at least one video frame or sub-frame, to enable a user to further identify content. Additionally, the process provides aggregates the identifiers for display to users on the detailed information page.

In a preferred embodiment of the present invention, the process assembles a "video guide" that comprises: a text description of a video, a URL or other location indicator for locating a whole, segment, or frame of a video, an audio sample from the video, and "teaser" frames or segments of a video to assist in the identification or promotion of a video. In an embodiment of the present invention, the "video guide" is resident on a central server, in a local unit, or a combination of both.

In a more preferred embodiment of the present invention, the "video guide" enables a user to locate, display, download, and record a selected whole, segment, frame, or sub-component of a video. Moreover, the "video guide" allows a user to conduct all of the above operations, as well as finding, selecting, grouping, erasing, concatenating, segmenting, and integrating a class of videos. In a preferred embodiment of the present invention, the "video guide" is a software, firmware, or hardware feature resident in a personal computer or similar device capable of storing video streams.

In an additional embodiment of the present invention, the process integrates video or graphic information with a conditional access system or a payment system. The identifier for the video or graphic contains a field indicating whether there is a conditional access or payment system. If there is a conditional access or payment system, then the identifier contains information about the access site or payment system and/or a link to the access site or payment system. In a preferred embodiment of the present invention, the process solicits the user for the authorization information or payment, and only upon proper authorization allows the user to access the video or graphic.

In an additional embodiment of the present invention, the process integrates video stream information with television programs that are receivable on the same device enabling the video or graphic search. If there is a link to a television show, the identifier contains a link to that televisions show and conveys that information to a user. Additionally, the process enables the user to search for video streams and graphics using television links as a searchable attribute.

In an additional embodiment of the present invention, the process integrates video stream information with other information, such as guides or lists of other items associated with the video stream. Items associated with the video or graphic include products, services, and web sites. Additionally, the process provides links to other information, whether or not that information is related to the video.

In an additional embodiment of the present invention, the process allows the user to customize, program, or set parameters for the usage of the process, such as smart agent filtering, a programmed search of certain types of video streams already in existence, and programmed "alert" searching for types of video streams coming into existence in the future. Additionally,

1   the process provides a means of filtering, selecting or blocking segments or frames in accordance
       with user controls, such as the blocking of violence or nudity from a video.

              The preceding description has been presented with reference to the presently preferred
       embodiments of the invention shown in the drawings. Workers skilled in the art and technology
5   to which this invention pertains will appreciate that alteration and changes in the described
       processes and structures can be practiced without departing from the spirit, principles and scope
       of this invention.

              Accordingly, the present invention provides for a video search engine. Although this
       invention has been described in certain specific embodiments, many additional modifications and
10   variations would be apparent to those skilled in the art. It is therefore to be understood that this
       invention may be practiced otherwise than as specifically described. Thus, the present
       embodiments of the invention should be considered in all respects as illustrative and not
       restrictive, the scope of the invention to be determined by the claims supported by this
       application and their equivalents rather than the foregoing description.

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1   CLAIMS

          1.   A method of searching for graphic or video files having corresponding locators used to locate such graphic or video files using a computer comprising:

              creating an identifier of searchable file information from identifier information related to

5   a graphic or video file;

              storing the identifier and the locator for the graphic or video file in a database;

              receiving search criteria;

              searching the identifiers in the database;

              sending or displaying the results of the search.

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          2.   The method of searching for graphic or video files using a computer of claim 1 wherein the identifier comprises information comprising at least one of: a unique identification number, format, size, play time, whether sound is contained, date of creation, category, whether conditional access or payment is required, text description, content author, content director, year

15   made, category, actor/actress, owner, star rating, parental control code, representative frame, representative audio, number of segments, number of frames, and linking information of a file.

          3.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is embedded within a graphic or a video file.

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          4.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is embedded within the periphery of each frame of a video.

          5.   The method of searching for graphic or video files using a computer of claim 4

25   wherein a border is appended to a video file to cover the identifier information.

          6.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is placed in a video or a graphic file as the video or the graphic file is created.

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          7.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is placed in a video or a graphic file after the video or graphic file is created.

35   8.   The method of searching for graphic or video files using a computer of claim 1 further comprising storing a portion of a video stream in the database for further identification.

1   9.   The method of searching for graphic or video files using a computer of claim 1
further comprising aggregating identifier elements to display to a user.

            10.   The method of searching for graphic or video files using a computer of claim 1
5   further comprising enabling a user to select a specific video or a specific graphic file for one or
more of the following: viewing, saving, erasing, recording, downloading, and sending.

            11.   The method of searching for graphic or video files using a computer of claim 10
wherein enabling a user to select a specific file is dependent on and integrated with a conditional
10   access system or a payment system.

            12.   The method of searching for graphic or video files using a computer of claim 1
further comprising enabling a user to select a class of video or graphic files for one or more of
the following: viewing, saving, recording, downloading, grouping, erasing, concatenating,
15   segmenting, integrating or sending.

            13.   The method of searching for graphic or video files using a computer of claim 1
further comprising integrating video or graphic file information with television programs that are
receivable by the user.
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            14.   The method of searching for graphic or video files using a computer of claim 1
further comprising integrating items associated with a video or a graphic file into the video or
graphic file identifier.

25   15.   The method of searching for graphic or video files using a computer of claim 1
wherein identifier information is acquired by searching an area near a graphic or a video file
within a web page for searchable identification terms.

            16.   The method of searching for graphic or video files using a computer of claim 1
30   wherein identifier information is acquired by searching an area near a link to a graphic or a video
file within a web page for searchable identification terms.

            17.   The method of searching for graphic or video files using a computer of claim 1
wherein identifier information is acquired by parsing the text in an area within a web page near
35   a link to a graphic or a video file.

1   18.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is acquired by searching the text for keywords in an area within a web page near a link to a graphic or a video file.

5   19.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is acquired by searching a file related to a graphic or a video file.

       20.   The method of searching for graphic or video files using a computer of claim 1 wherein identifier information is provided by the content provider.

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       21.   The method of searching for graphic or video files using a computer of claim 1 wherein the database is stored on a storage device comprising one or more of a hard disk, an optical disk, and a floppy disk.

15   22.   A method of selecting graphic or video files having corresponding locators used to locate such graphic or video files using a computer comprising:
       building identifiers by searching an area near a graphic or video file within a web page for searchable identification terms;
       storing the identifiers on a database;

20   receiving a user request for graphic or video file content;
       searching the identifiers on the database;
       providing graphic or video file content to the user.

       23.   A method of selecting graphic or video files having corresponding locators used

25   to locate such graphic or video files using a computer comprising:
       building identifiers by searching an area near a link to a graphic or video file within a web page for searchable identification terms;
       storing the identifiers in a database;
       receiving a user request for graphic or video file content;

30   searching the identifiers on the database;
       providing graphic or video file content to the user.

       24.   A method of selecting graphic or video files having corresponding locators used to locate such graphic or video files using a computer comprising:

35   building a searchable database of identifiers;
       receiving a user request for graphic or video file content;
       searching the identifiers in the database;
       providing graphic or video file content to the user.

25.   The method of selecting graphic or video files using a computer of claim 24 wherein the user request further comprises smart filtering of both existing graphic and video files and future generated graphic and video files.

26.   The method of selecting graphic or video files using a computer of claim 24 wherein the user request further comprises filtering, selecting or blocking segments or frames of a video file.

27.   A system for searching for graphic or video files having corresponding locators used to locate such graphic or video files comprising:
        a means for creating an identifier containing searchable file information from identifier information related to a graphic or video file;
        a database for saving an identifier;
        an input for receiving search criterion;
        a search engine for searching the identifiers in the database;
        an output for sending or displaying the results of the search.

28.   The system for searching for graphic or video files of claim 27 wherein identifier information comprises information comprising at least one of: a unique identification number, format, size, play time, whether sound is contained, date of creation, category, whether conditional access or payment is required, text description, content author, content director, year made, category, actor/actress, owner, star rating, parental control code, representative frame, representative audio, number of segments, number of frames, and linking information of a file.

29.   The system for searching for graphic or video files of claim 27 wherein identifier information is embedded within a graphic or a video file.

30.   The system for searching for graphic or video files of claim 27 wherein identifier information is embedded within the periphery of each frame of a video.

31.   The system for searching for graphic or video files of claim 30 wherein a border is appended to a video file to cover the identifier information.

32.   The system for searching for graphic or video files of claim 27 further comprising a means for placing identifier information in a video or a graphic file as the video or graphic file is created.

33.   The system for searching for graphic or video files of claim 27 further comprising a means for placing identifier information in a video or a graphic file after the video or graphic file is created.

34.   The system for searching for graphic or video files of claim 27 further comprising a database for storing a portion of a video stream in the storage device for further identification.

35.   The system for searching for graphic or video files of claim 27 further comprising a means for aggregating identifier elements to send or display to a user.

36.   The system for searching for graphic or video files of claim 27 further comprising a means enabling the user to select a specific video or a specific graphic file for one or more of the following: viewing, saving, erasing, recording, downloading, and sending.

37.   The system for searching for graphic or video files of claim 36 wherein enabling a user to select a specific file is dependent on and integrated with a conditional access system or a payment system.

38.   The system for searching for graphic or video files of claim 27 further comprising a means for enabling a user to select a class of video or graphic files for one or more of the following: viewing, saving, recording, downloading, grouping, erasing, concatenating, segmenting, integrating or sending.

39.   The system for searching for graphic or video files of claim 27 further comprising a means for integrating a video or a graphic file information with television programs that are receivable by the user.

40.   The system for searching for graphic or video files of claim 27 further comprising a means for integrating items associated with a video or a graphic file into the video or graphic file identifier.

41.   The system for searching for graphic or video files of claim 27 further comprising a means for acquiring identifier information by searching an area near a graphic or a video file within a web page for searchable identification terms.

42.   The system for searching for graphic or video files of claim 27 further comprising a search engine for acquiring identifier information by searching an area near a link to a graphic or a video file within a web page for searchable identification terms.

1　　　　43.　　The system for searching for graphic or video files of claim 27 further comprising a means for acquiring identifier information by parsing the text in an area within a web page near a link to a graphic or a video file.

5　　　　44.　　The system for searching for graphic or video files of claim 27 further comprising a means for acquiring identifier information by searching the text for keywords in an area within a web page near a link to a graphic or a video file.

　　　　45.　　The system for searching for graphic or video files of claim 27 further comprising
10　　a search engine for acquiring identifier information by searching a file related to a graphic or a video file.

　　　　46.　　The system for searching for graphic or video files of claim 27 further comprising an input for receiving identifier information from the content provider.

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　　　　47.　　The method of searching for graphic or video files using a computer of claim 27 further comprising a storage device wherein the database is stored comprising one or more of a hard disk, an optical disk, and a floppy disk.

20
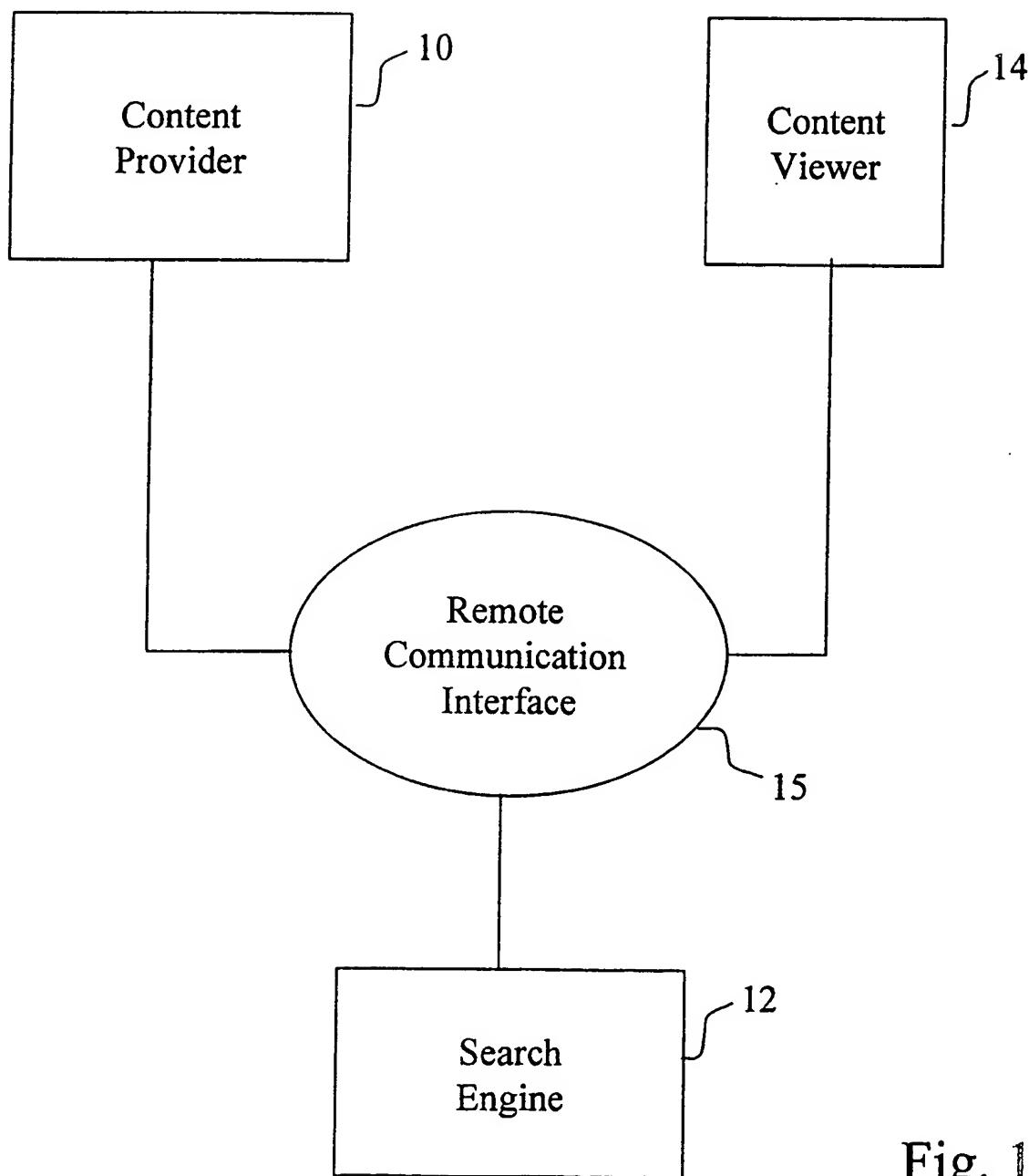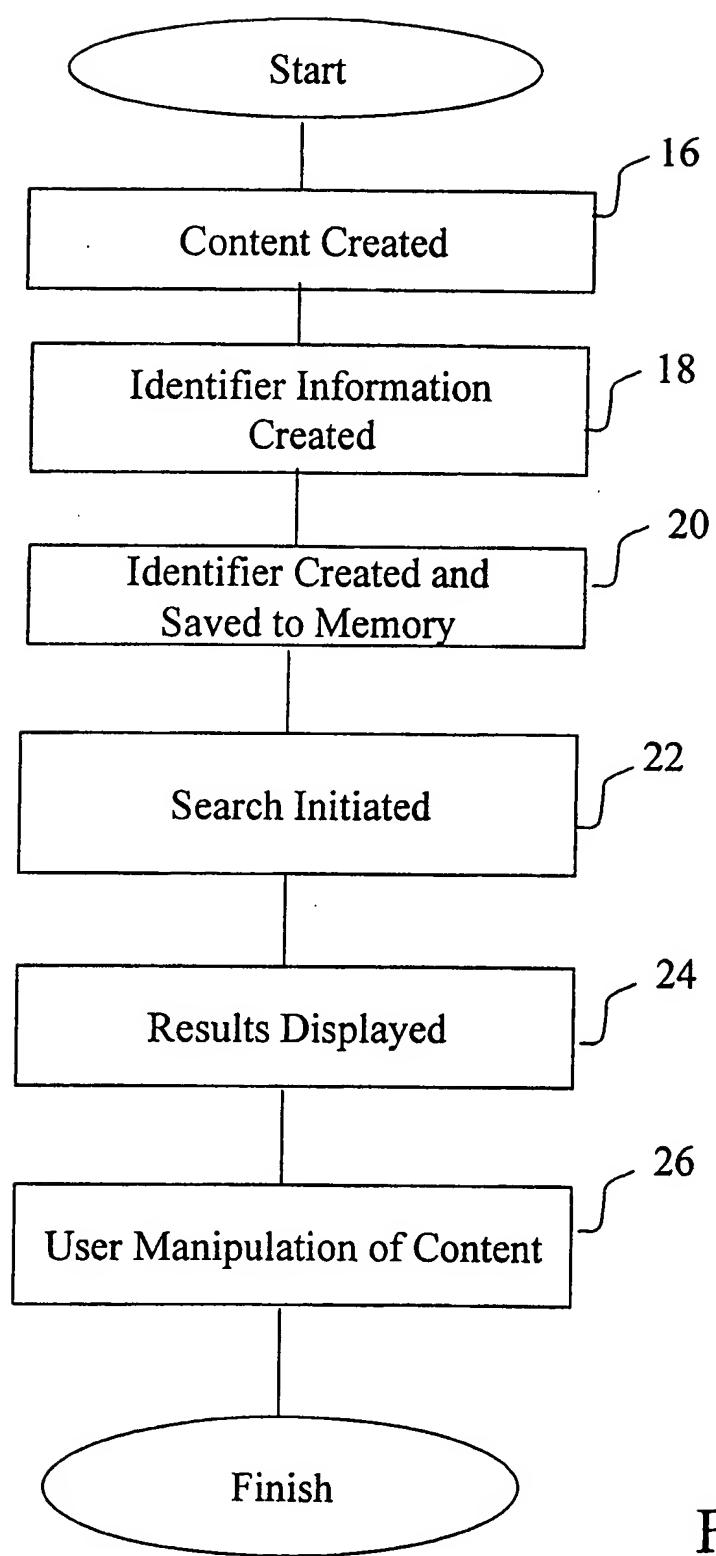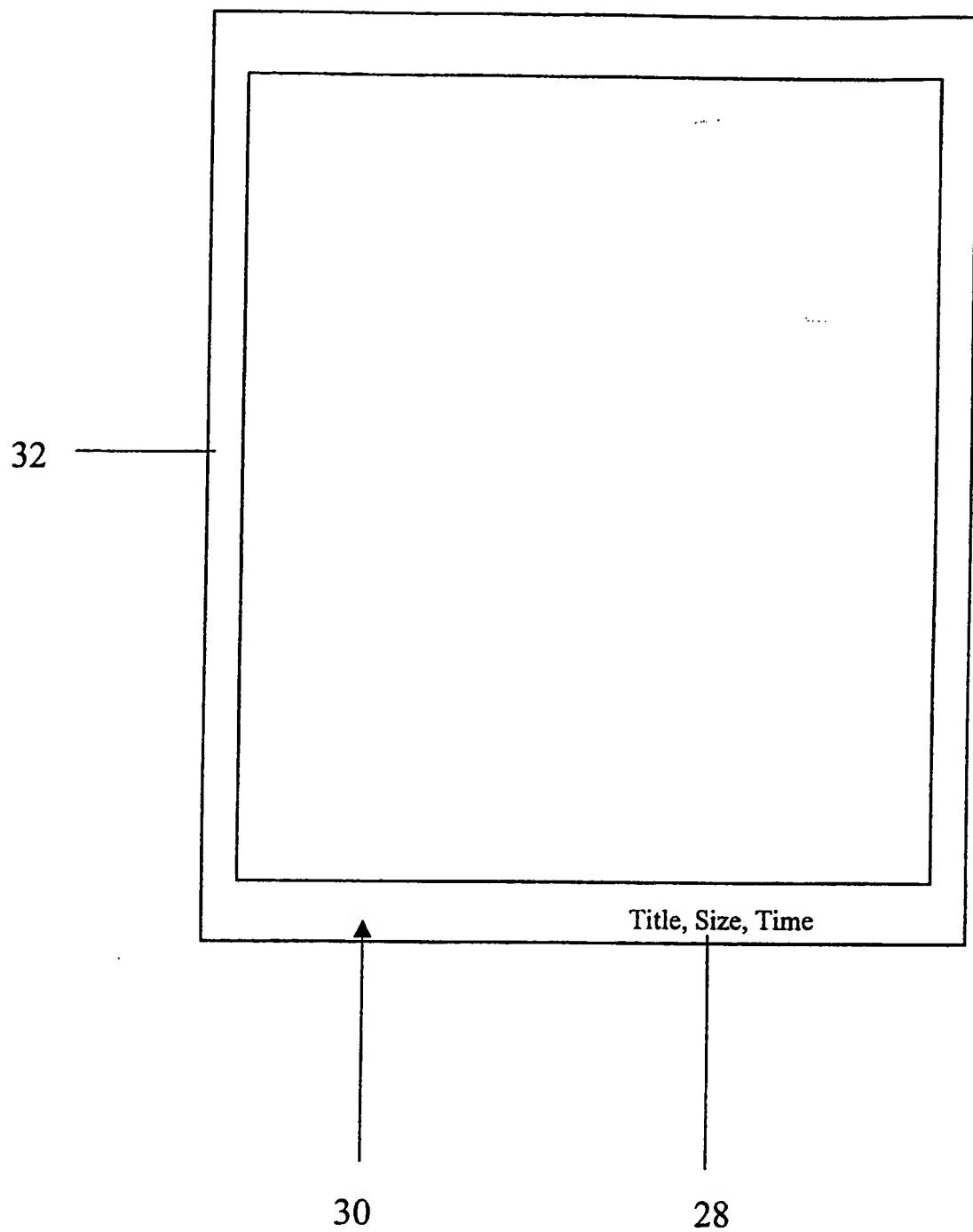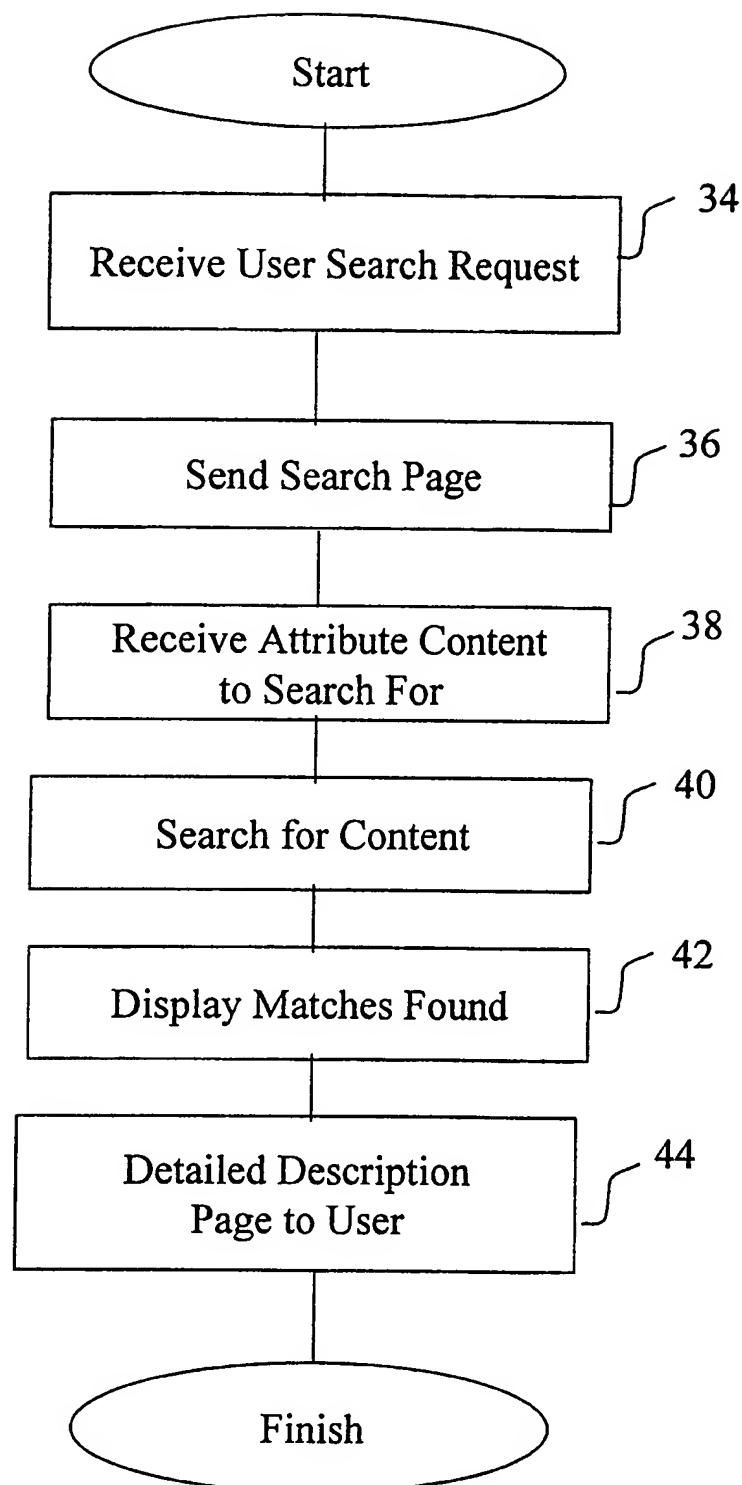
25

30

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Fig. 1

```
                    ┌──────────────────┐
                    │      Start        │
                    └──────────────────┘
                              │
                              │                    ⌐ 16
                    ┌──────────────────┐
                    │  Content Created  │
                    └──────────────────┘
                              │
                              │                    ⌐ 18
                    ┌──────────────────┐
                    │Identifier Information│
                    │      Created      │
                    └──────────────────┘
                              │
                              │                    ⌐ 20
                    ┌──────────────────┐
                    │Identifier Created and│
                    │  Saved to Memory  │
                    └──────────────────┘
                              │
                              │                    ⌐ 22
                    ┌──────────────────┐
                    │ Search Initiated  │
                    └──────────────────┘
                              │
                              │                    ⌐ 24
                    ┌──────────────────┐
                    │ Results Displayed │
                    └──────────────────┘
                              │
                              │                    ⌐ 26
                    ┌──────────────────┐
                    │User Manipulation of Content│
                    └──────────────────┘
                              │
                    ┌──────────────────┐
                    │      Finish       │
                    └──────────────────┘
```

Fig. 2

32 —————

Title, Size, Time

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28

Fig. 3

4/4

```
                    ┌─────────────┐
                    │    Start    │
                    └─────────────┘
                           │
            ┌──────────────────────────────┐
            │  Receive User Search Request  │        34
            └──────────────────────────────┘
                           │
            ┌──────────────────────────────┐
            │      Send Search Page         │        36
            └──────────────────────────────┘
                           │
            ┌──────────────────────────────┐
            │  Receive Attribute Content    │        38
            │      to Search For            │
            └──────────────────────────────┘
                           │
            ┌──────────────────────────────┐
            │     Search for Content        │        40
            └──────────────────────────────┘
                           │
            ┌──────────────────────────────┐
            │    Display Matches Found       │       42
            └──────────────────────────────┘
                           │
            ┌──────────────────────────────┐
            │    Detailed Description        │       44
            │       Page to User            │
            └──────────────────────────────┘
                           │
                    ┌─────────────┐
                    │   Finish    │
                    └─────────────┘
```

Fig. 4

INTERNATIONAL SEARCH REPORT

A.	**CLASSIFICATION OF SUBJECT MATTER**

IPC(6)   :H04N 7/10, 7/14
US CL   :345/327; 348/12, 13, 6, 10; 455/3.1, 6.1, 6.2, 6.3
According to International Patent Classification (IPC) or to both national classification and IPC

B.	**FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

   U.S. :   345/327; 348/12, 13, 6, 10; 455/3.1, 6.1, 6.2, 6.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

   APS - database, id, identifier, user, subscriber, request, data, information, graphic

C.	**DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,659,742 A (BEATTIE et al) 19 August 1997, col. 3, line 59 - col. 7, line 10, col. 13, line 29, - col. 14, line 51, col. 15, line 51, col. 16, line 12, fig. 1, fig. 3, fig. 4a	1-47
A	US 5,734,886 A (GROSSE et al) 31 March 1998	1-47

☐ Further documents are listed in the continuation of Box C.   ☐ See patent family annex.

*	Special categories of cited documents	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	
"E"	earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	
"P"	document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 FEBRUARY 2000	**20 MAR 2000**
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer Vivek Srivastava
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